

REMARKS

Claims 1, 6 and 11 have been amended. Claims 1-23 are still pending and have not been amended. Reexamination and allowance of the pending claims is respectfully requested.

Claims 1-10

Claims 1-3, 5-8 and 10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over USP 6,358,836 to Lu et al. ("Lu") in view of USP 6,348,399 to Lin ("Lin"). Claims 4 and 9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Lu in view of Lin, and further in view of USP 5,903,058 to Akram ("Akram"). These rejections are respectfully traversed.

Independent claims 1 and 6 both recite, among other limitations, that the method is applied to an organic circuit board. In contrast, the substrate 12 in Lu is silicon (see column 2, lines 5-6). This distinction is very important when viewed in the context of the steps of the claimed method. First, organic circuit board manufacturing (as in the claimed invention) is very different from silicon substrate manufacturing (as in Lu). Organic circuit board manufacturing requires a manufacturing precision of about 200 um to 300 um, while silicon substrate manufacturing only requires a manufacturing precision of about 0.13 um to 0.15 um. These requirements mean that organic circuit board manufacturing and silicon substrate manufacturing use different materials and equipment, and that such materials and equipment are not interchangeable.

In addition, the substrates 20 and 120 in Lin are also made of metal. See column 1, line 46 and column 2, line 57.

This difference between organic circuit board manufacturing and silicon substrate manufacturing is reinforced by another distinction between Lu and claims 1 and 6. In particular, claims 1 and 6 have been amended to recite that the "thin metal layer" is a "single thin metal layer" 325. In contrast, the UMB layer 26 in Lu comprises two layers 28 and 30. Since the pitch in conventional silicon substrates (such as as in Lu) is so small (i.e., around 0.13 um to 0.15 um), it is necessary to provide two layers to prevent diffusion of electrons. On the other hand, organic circuit boards (as in claims 1 and 6) do not have to address the potential problems of electron diffusion because the pitch is much greater (i.e., around 200 um to 300 um).

In light of these reasons, it is respectfully submitted that amended claims 1 and 6, and claims 2-5 and 7-10 depending therefrom, are allowable over Lu and Lin.

Claims 11-23

Claims 11-14, 16-21 and 23 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Lu in view of Lin, and further in view of USP 6,489,229 to Sheridan et al. ("Sheridan"). Claims 15 and 22 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Lu in view of Lin, and further in view of Sheridan and Akram. These rejections are respectfully traversed.

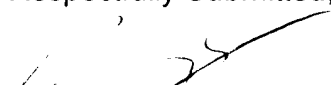
Independent claims 11 and 17 both recite, among other limitations, that the method is applied to an organic circuit board. As explained above, Lu and Lin both disclose the use of a metal substrate.

In addition, claim 11 has been amended to recite that the "thin metal layer" is a "single thin metal layer" 325. In contrast, as explained above, the UMB layer 26 in Lu comprises two layers 28 and 30.

In light of these reasons, it is respectfully submitted that amended claim 11 and Original claim 17, and claims 12-16 and 18-23 depending therefrom, are allowable over Lu, Lin and Sheridan.

Thus, all pending claims are submitted to be in condition for allowance. The Examiner is encouraged to telephone the undersigned if there are informalities that can be resolved in a phone conversation, or if the Examiner has any ideas or suggestions for further advancing the prosecution of this case.

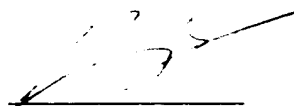
Respectfully Submitted,


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I hereby certify that this paper and its enclosures are being deposited with the United States Postal service as First Class Mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

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By: 
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